

WHAT IS CLAIMED IS:

1. An electric double layer capacitor having contained
in a casing an electrolyte, a positive electrode and a
negative electrode each being an electrode containing
5 carbon black, to form an electric double layer at the
interface with the electrolyte, and a separator
interposed between the positive electrode and the
negative electrode, wherein at least one electrode of the
positive electrode and the negative electrode has
10 protruded portions or bent portions formed continuously
in the height direction against the bottom face of the
casing, and a space due to the height of the protruded
portions or the bent portions is formed between said at
least one electrode and the separator.
- 15 2. The electric double layer capacitor according to
Claim 1, wherein on both electrodes of the positive
electrode and the negative electrode, the protruded
portions or the bent portions are formed continuously in
the height direction against the bottom face of the
20 casing.
3. The electric double layer capacitor according to
Claim 1, wherein a plurality of such positive electrodes
and negative electrodes are alternately stacked with the
separator between them, or the positive electrode and the
25 negative electrode each having a long strip shape, are
wound with the separator between them, and contained in
the casing having a bottomed cylindrical shape.

4. The electric double layer capacitor according to Claim 1, wherein the protruded portions or the bent portions are ones having said at least one electrode deformed on one side or both sides, and they are formed
5 in a plurality at every predetermined distance in a direction perpendicular to the height direction.

5. The electric double layer capacitor according to Claim 1, wherein the electrode is one comprising a metal current collector and an electrode sheet containing a
10 carbonaceous material as the main component and having a thickness of from 80 to 400 μm , bonded with an adhesive layer to at least one side of the metal current collector.

6. The electric double layer capacitor according to Claim 5, wherein the electrode sheet is bonded with an
15 adhesive layer to each side of the metal current collector.

7. The electric double layer capacitor according to Claim 5, wherein the electrode sheet contains from 5 to 30 mass% of carbon black.

20 8. The electric double layer capacitor according to Claim 6, wherein the electrode sheet contains from 5 to 30 mass% of carbon black.

9. The electric double layer capacitor according to Claim 1, wherein the separator has a thickness of from 10
25 to 60 μm , a porosity of from 40 to 85% and the maximum pore size of at most 1 μm as measured by the test method prescribed in JIS K3832.

10. The electric double layer capacitor according to Claim 3, wherein the separator has a thickness of from 10 to 60 μm , a porosity of from 40 to 85% and the maximum pore size of at most 1 μm as measured by the test method
5 prescribed in JIS K3832.

11. The electric double layer capacitor according to Claim 1, wherein the electrolyte is a non-aqueous electrolyte containing a quaternary onium salt as a solute.

10 12. The electric double layer capacitor according to Claim 3, wherein the electrolyte is a non-aqueous electrolyte containing a quaternary onium salt as a solute.

13. The electric double layer capacitor according to
15 Claim 9, wherein the electrolyte is a non-aqueous electrolyte containing a quaternary onium salt as a solute.

14. A process for producing an electric double layer capacitor, which comprises a step of forming a positive
20 electrode and a negative electrode each being an electrode containing carbon black, to form an electric double layer at the interface with an electrolyte, a step of forming protruded portions or bent portions on at least one electrode of the positive electrode and the
25 negative electrode, a step of interposing a separator between the positive electrode and the negative electrode to form an element, a step of containing the element in a

casing, a step of impregnating the element with an electrolyte, and at least one charging operation, in this order, wherein a space due to the height of the protruded portions or the bent portions is formed between said at least one electrode and the separator.

15. The process for producing an electric double layer capacitor according to Claim 14, wherein the step of forming the protruded portions or the bent portions, is carried out on both electrodes of the positive electrode and the negative electrode.

16. The process for producing an electric double layer capacitor according to Claim 15, wherein the electrode is formed by bonding with an adhesive layer an electrode sheet containing a carbonaceous material as the main component and having a thickness of from 80 to 400 μm , on at least one side of a metal current collector, the protruded portions or the bent portions are formed so that the sum of the thickness of the electrode and the height of the protruded portions or the bent portions becomes to be from 1.01 to 1.20 times the thickness of the electrode comprising the sum of the thicknesses of the metal current collector, the electrode sheet and the adhesive layer, and the protruded portions and the bent portions are formed at a distance of at most 20 mm in a direction perpendicular to the height direction of the casing.

17. The process for producing an electric double layer

capacitor according to Claim 16, wherein the electrode is formed by bonding the electrode sheet to each side of the metal current collector with an adhesive layer.

18. The process for producing an electric double layer
5 capacitor according to Claim 14, wherein the thickness of the electrode expands from 1.1 to 1.6 times by the step of impregnating the electrolyte and the charging operation.